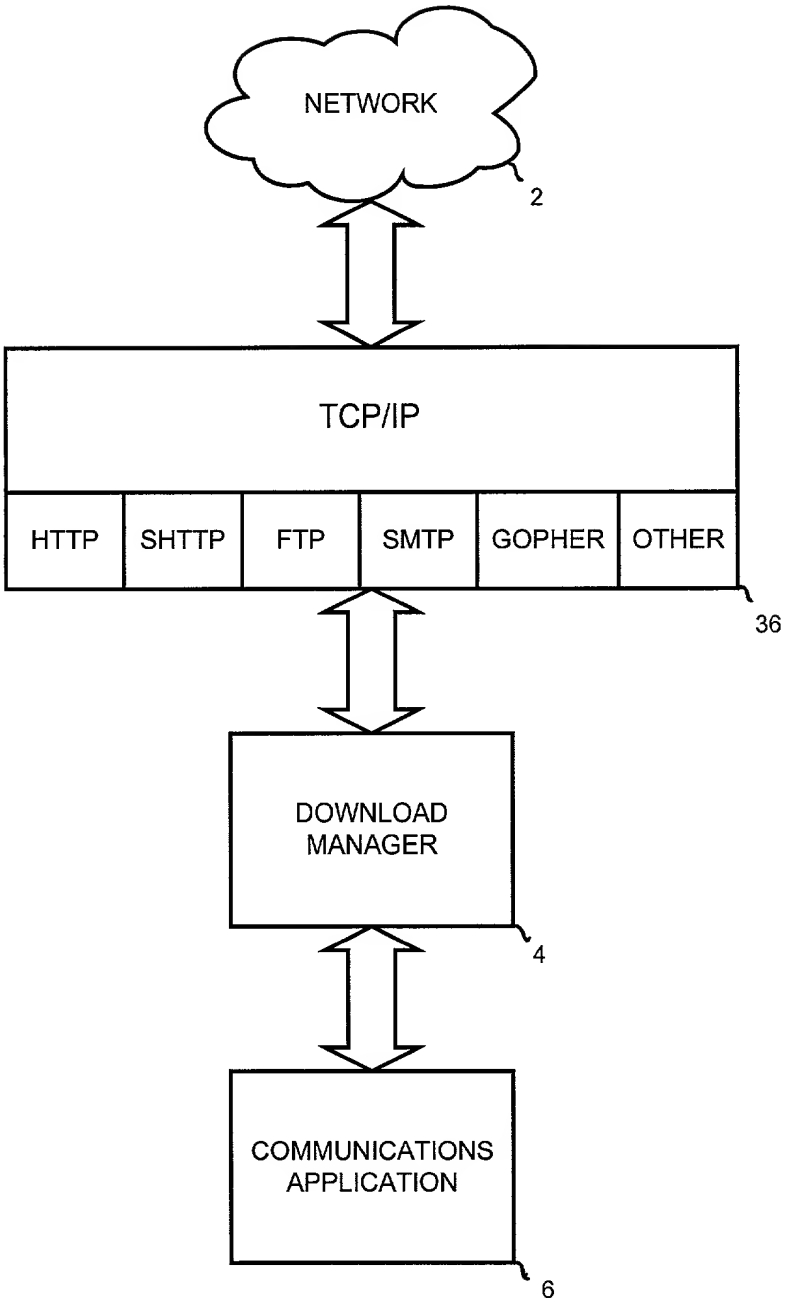
NETWORK
2
TCP/IP
HTTP
SHTTP
FTP
SMTP
GOPHER
OTHER
36
DOWNLOAD MANAGER
4
COMMUNICATIONS APPLICATION
6

FIG. 1

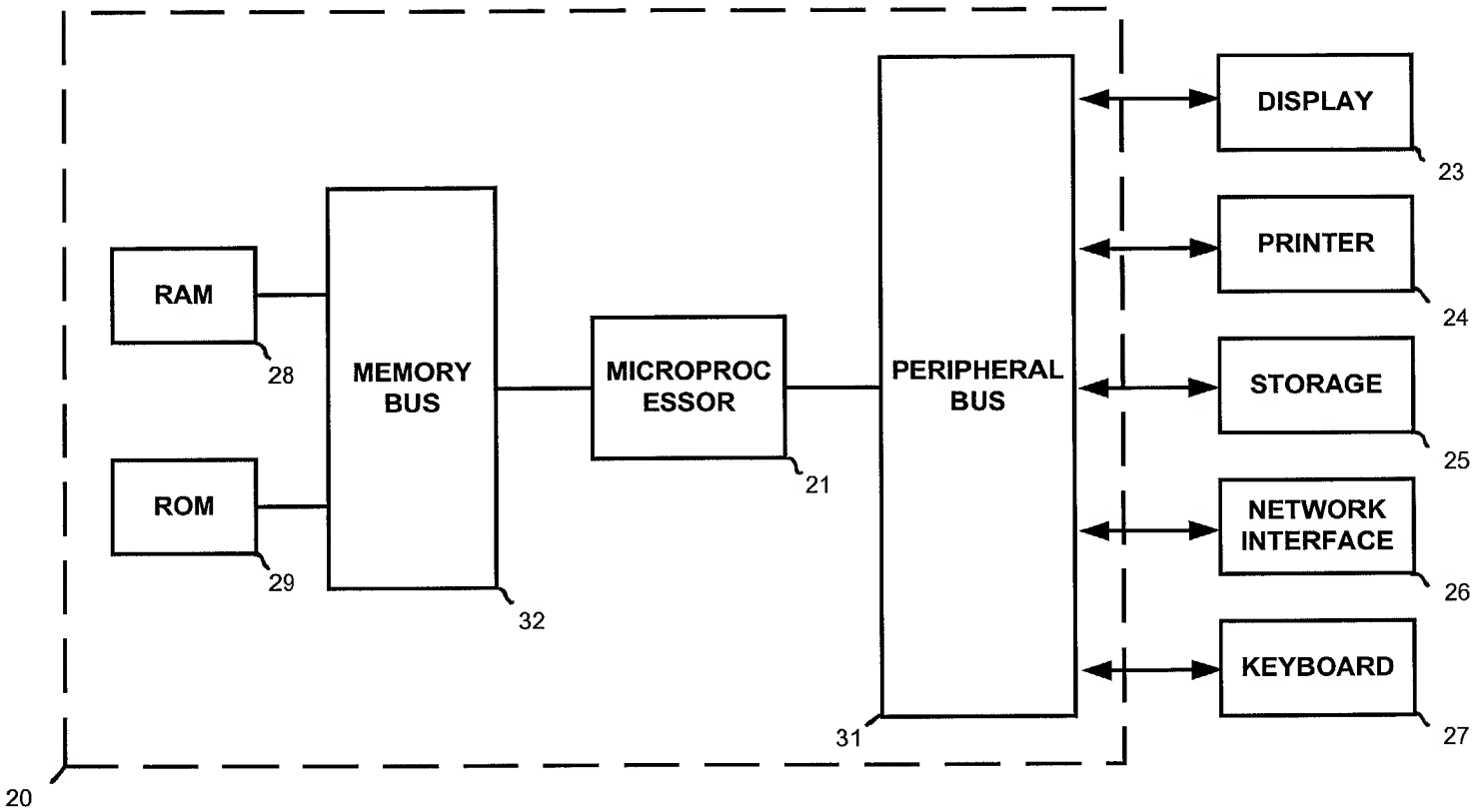
RAM
28
ROM
29
MEMORY BUS
32
MICROPROC ESSOR
21
PERIPHERAL BUS
31
DISPLAY
23
PRINTER
24
STORAGE
25
NETWORK INTERFACE
26
KEYBOARD
27
20

FIG. 2

Tradeco Secured

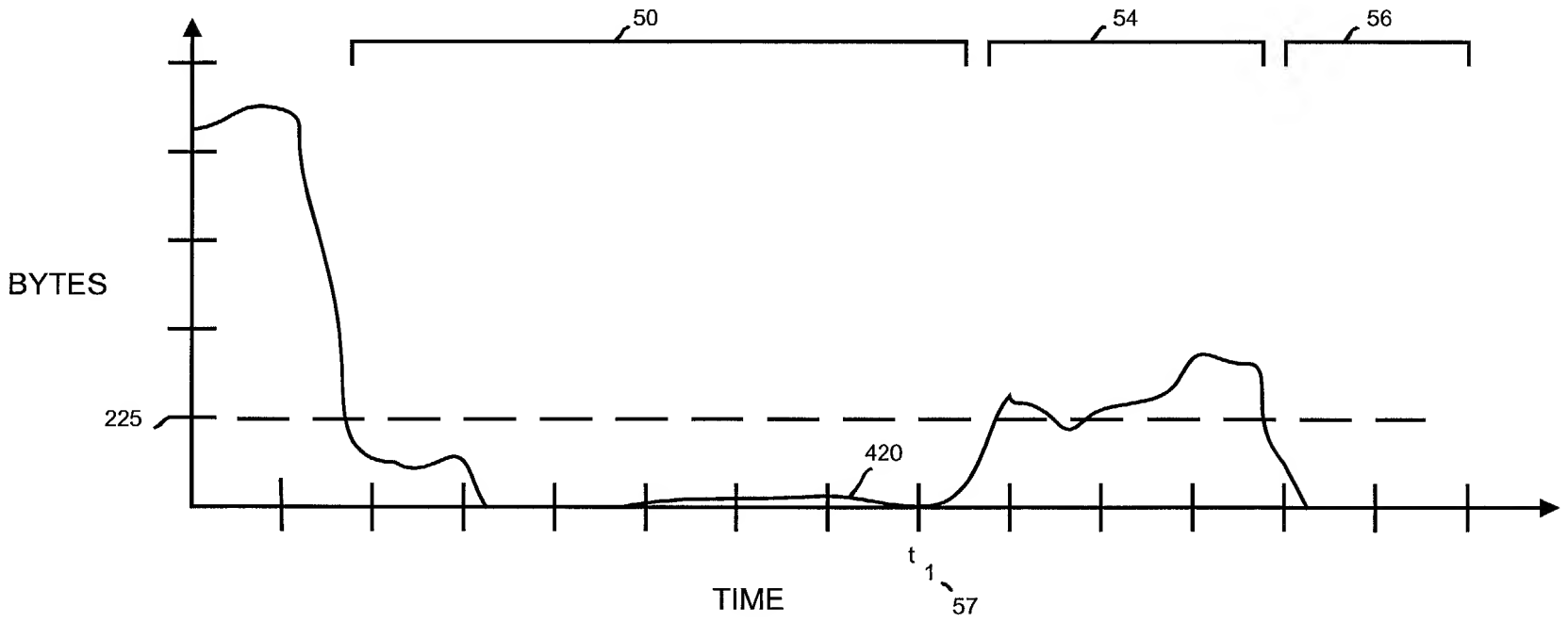

FIG. 3

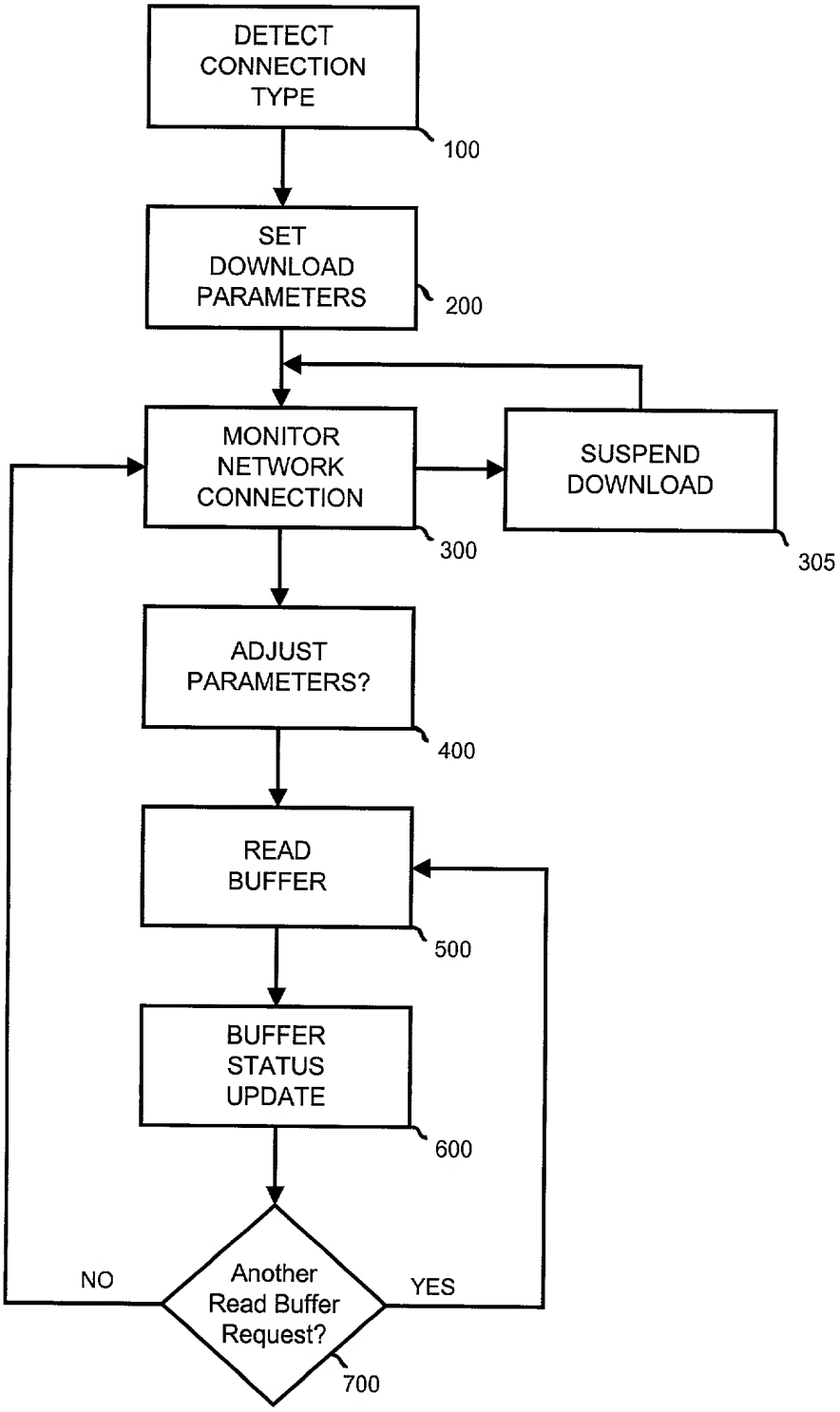
DETECT CONNECTION TYPE
100
SET DOWNLOAD PARAMETERS
200
MONITOR NETWORK CONNECTION
300
SUSPEND DOWNLOAD
305
ADJUST PARAMETERS?
400
READ BUFFER
500
BUFFER STATUS UPDATE
600
Another Read Buffer Request?
700
NO
YES

FIG. 4

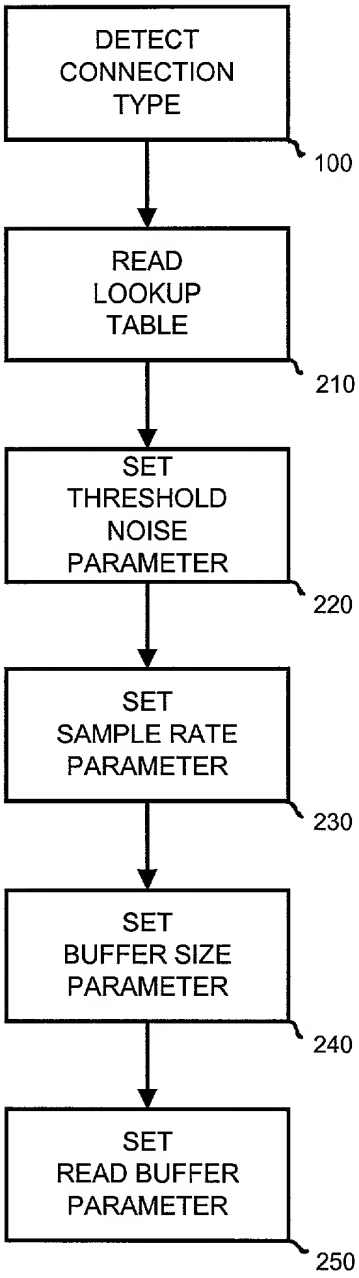
DETECT CONNECTION TYPE
100
READ LOOKUP TABLE
210
SET THRESHOLD NOISE PARAMETER
220
SET SAMPLE RATE PARAMETER
230
SET BUFFER SIZE PARAMETER
240
SET READ BUFFER PARAMETER
250

FIG. 5A

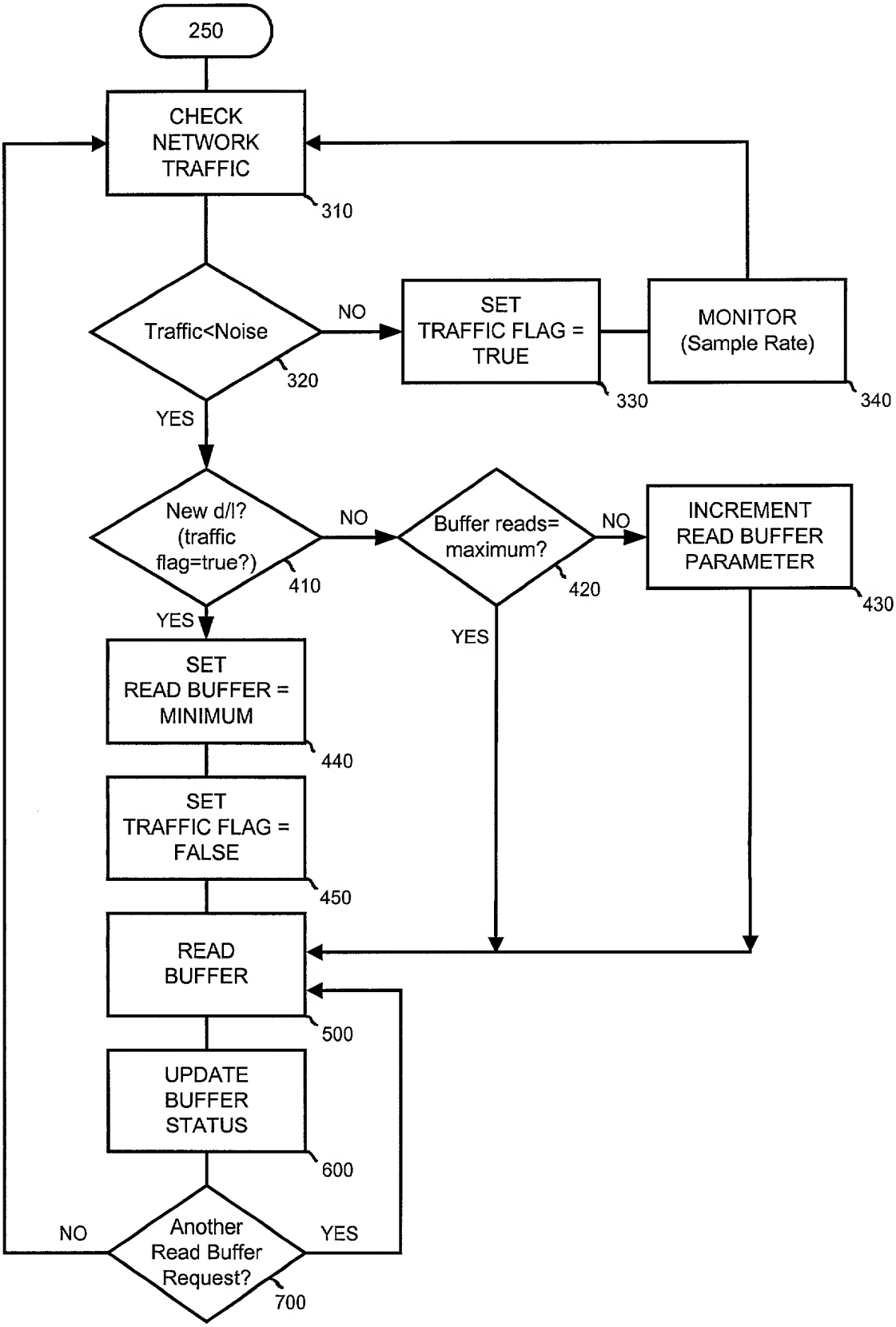
250
CHECK NETWORK TRAFFIC
310
Traffic<Noise
320
NO
SET TRAFFIC FLAG = TRUE
330
MONITOR (Sample Rate)
340
YES
New d/l? (traffic flag=true?)
410
NO
Buffer reads= maximum?
420
NO
INCREMENT READ BUFFER PARAMETER
430
YES
YES
SET READ BUFFER = MINIMUM
440
SET TRAFFIC FLAG = FALSE
450
READ BUFFER
500
UPDATE BUFFER STATUS
600
Another Read Buffer Request?
700
NO
YES

FIG. 5B

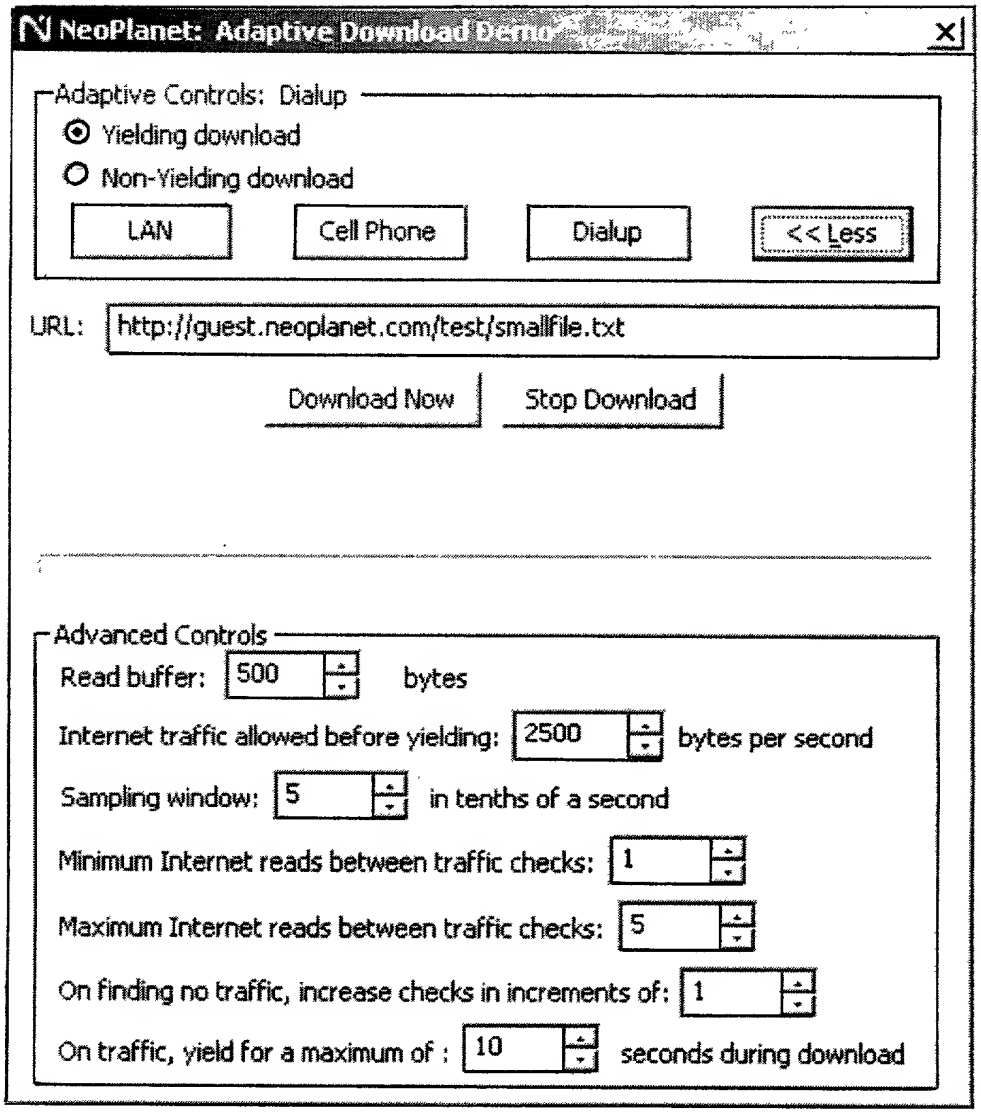
NeoPlanet: Adaptive Download Demo
Adaptive Controls: Dialup
Yielding download
Non-Yielding download
LAN
Cell Phone
Dialup
<< Less
URL:
http://guest.neoplanet.com/test/smallfile.txt
Download Now
Stop Download
Advanced Controls
Read buffer:
500
bytes
Internet traffic allowed before yielding:
2500
bytes per second
Sampling window:
5
in tenths of a second
Minimum Internet reads between traffic checks:
1
Maximum Internet reads between traffic checks:
5
On finding no traffic, increase checks in increments of:
1
On traffic, yield for a maximum of :
10
seconds during download

FIG. 6

Modem Speed (bytes)	Threshold Level (per second)	Sample Rate (tenths of a second)	Read Buffer Size (bytes)	Minimum Read Buffer	Increment Read Buffer	Maximum Read Buffer
10000000	6000	5	2500	10	500	10
115200	500	5	1000	1	5	1
19200	100	5	900	1	1	1
0 (default)	100	5	900	1	1	1

FIG. 7

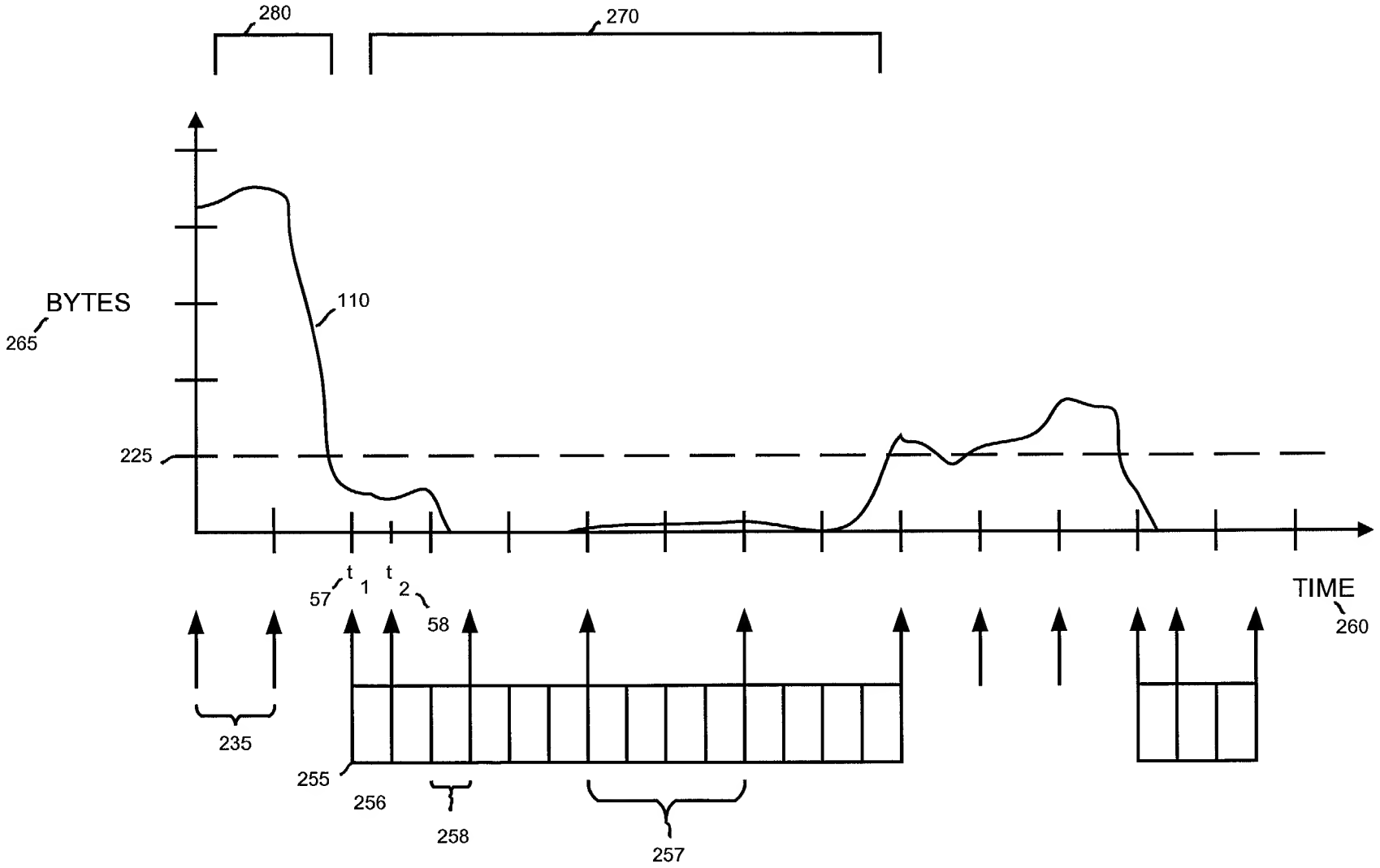
280
270
BYTES
265
110
225
t
1
t
2
57
58
TIME
260
235
255
256
258
257

FIG. 8

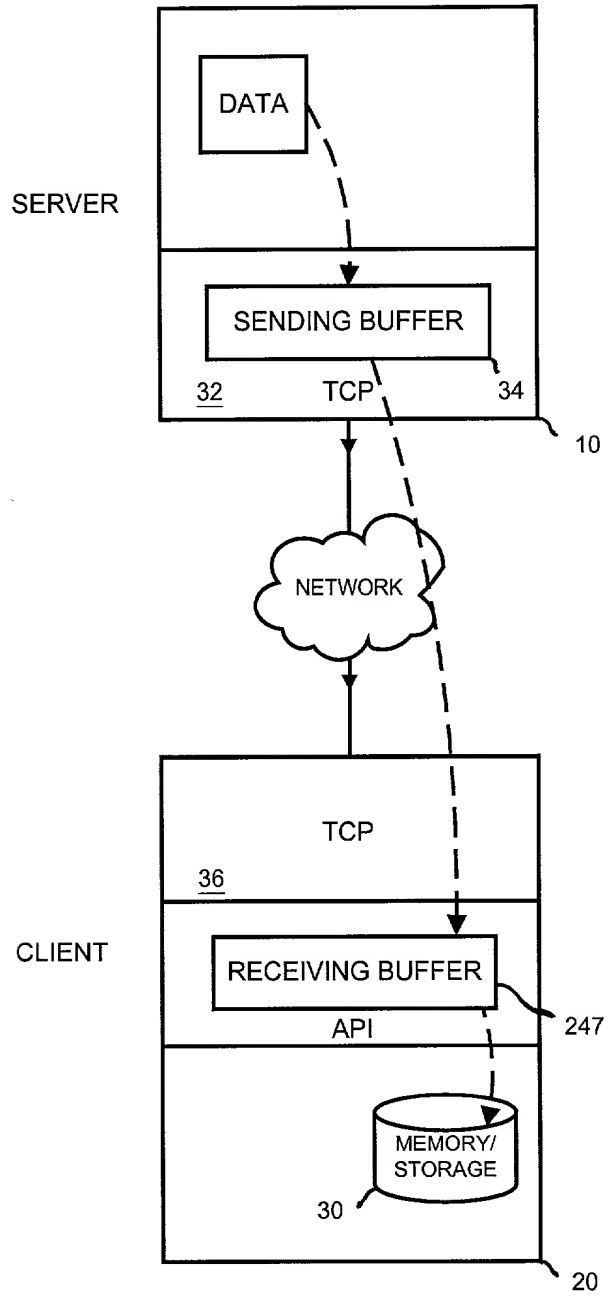
DATA
SERVER
SENDING BUFFER
32
TCP
34
10
NETWORK
TCP
36
CLIENT
RECEIVING BUFFER
247
API
MEMORY/
STORAGE
30
20

FIG. 9

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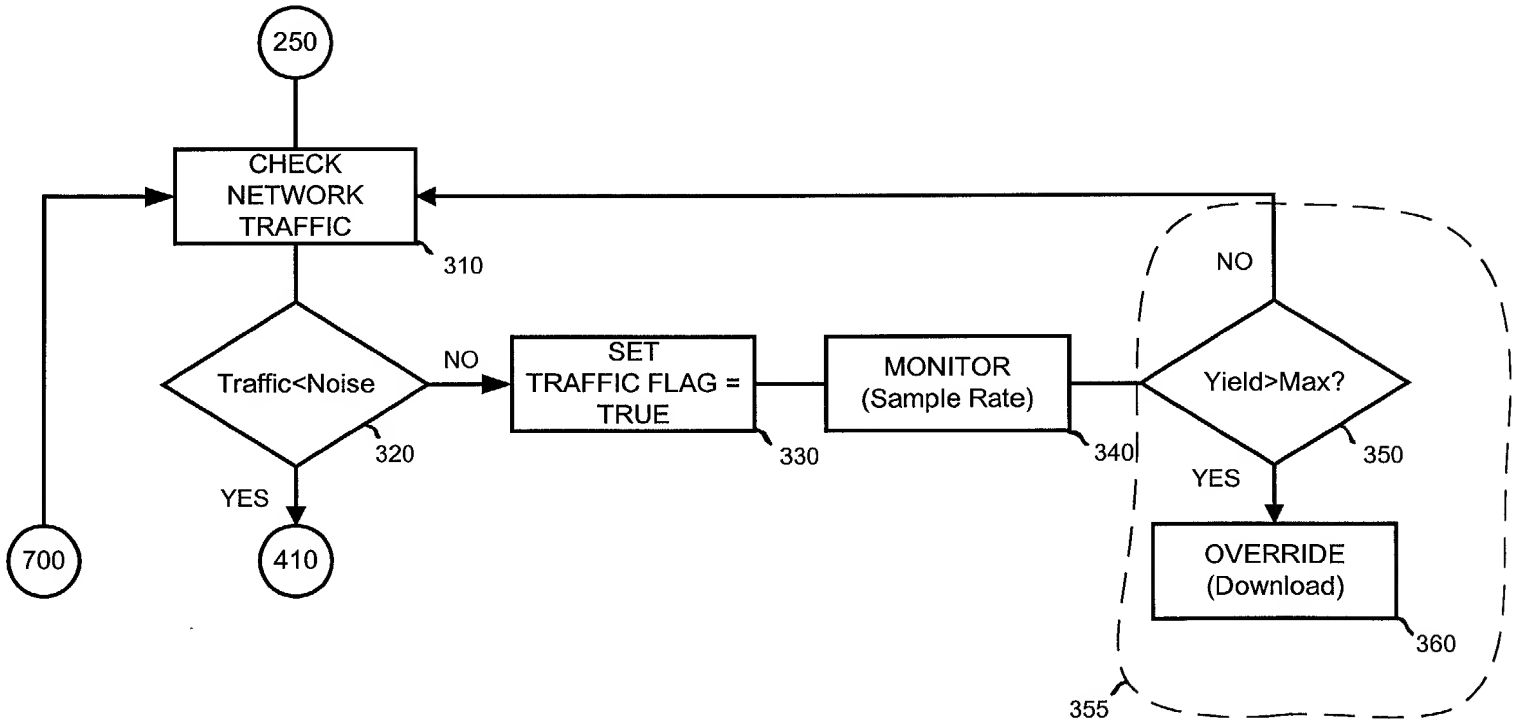

FIG. 10

Modem Speed (bytes)	Yield Maximum (seconds)	Sample Rate (tenths of a second)	Sample Rate Increment (seconds)	Ceiling on Sample Rate (seconds)
10000000		5	500	10
115200	10	5	5	1
19200		5	1	1
0 (default)		5	1	1

FIG. 11

Topaz-2826

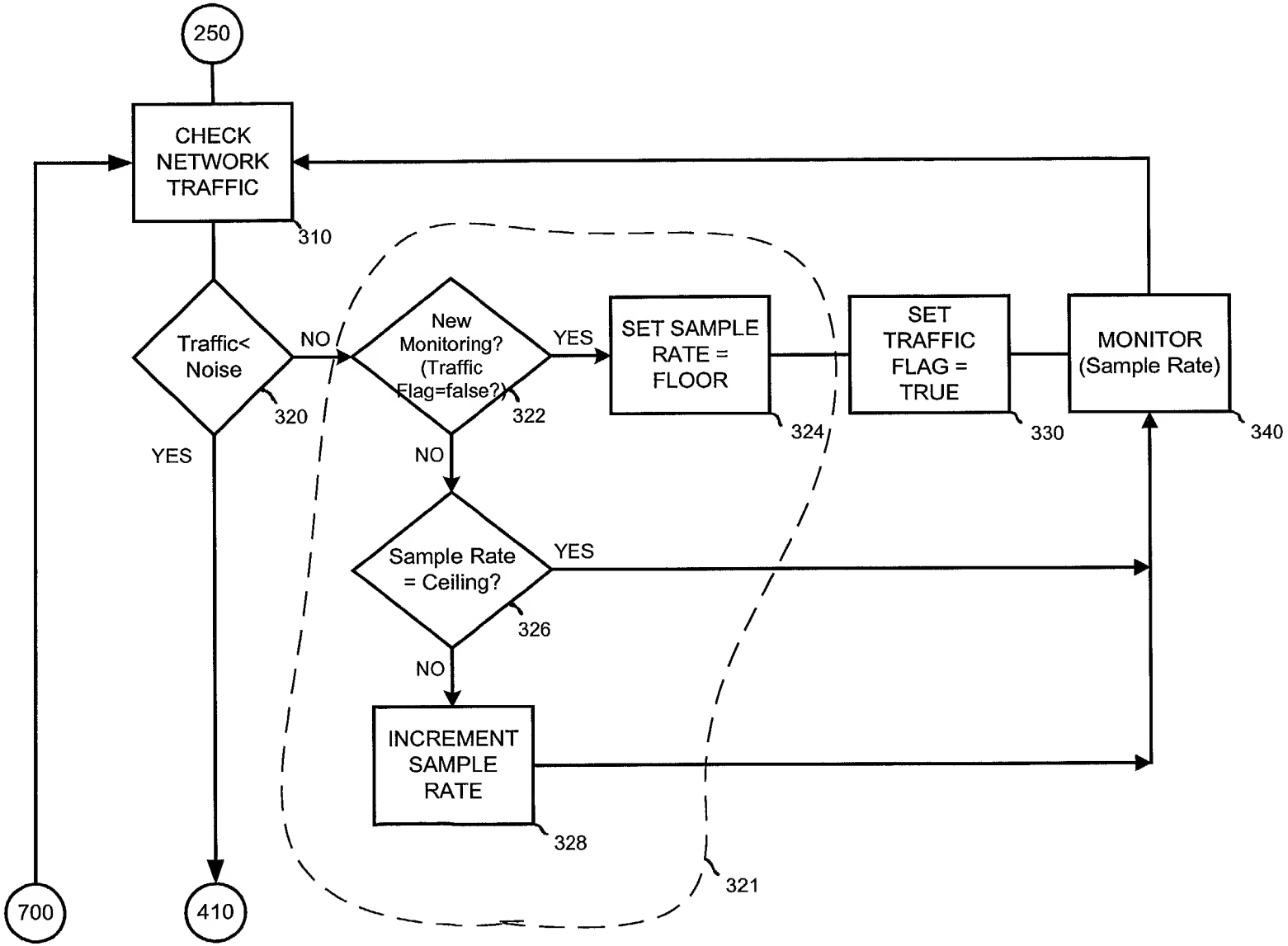

FIG. 12